St. Clair County
Metro Disposal System In
IL1636500001
SF/HRS
ILD 980607204

Site Team Evaluation Prioritization

ESI

Illinois Environmental Protection Agency

2200 Churchill Road
P. O. Box 19276
Springfield, IL 62794-9276

TABLE OF CONTENTS

1.0 SITE BACKGROUND

1.1 INTRODUCTION

On September 30, 1997 the Illinois Environmental Protection Agency's (IEPA) Site Assessment Program was tasked by the United States Environmental Protection Agency (U.S. EPA) to conduct a CERCLA Site Team Evaluation Prioritization (STEP) for the Metro Disposal Systems, Inc. (Metro) site located in Fairmont City, St. Clair County, Illinois. Metro was initially placed on CERCLIS (Comprehensive Environmental Response, Compensation and Liability Act Information System) in June, 1981. In 1985 a CERCLA Preliminary Assessment was conducted by IEPA and in 1991 the US EPA's contractor Ecology and Environment conducted a CERCLA Screening Site Inspection, during which eight soil samples and six groundwater samples were collected. In 1995, Ecology and Environment conducted a Focused Site Inspection Prioritization Site Evaluation Report which recommended further investigation of the property. In September of 1997 the IEPA's Site Assessment program prepared a work plan for additional sampling to be conducted at Metro. The sampling portion of the STEP was conducted on October 22 when the sampling team collected a total of eight sediment samples from the site. These were collected to help determine whether site activities had impacted the wetlands that surround the site and an adjacent stream.

IEPA performed STEP activities for the site to fill information gaps which existed in previous CERCLA investigations and to determine whether, or to what extent, the site poses a threat to human health and the environment. This STEP report presents the results of IEPA's evaluation and summarizes the site conditions and targets pertinent to the migration and exposure pathways

associated with the site. This report is organized into four sections. Section 1 provides a site background, Section 2 describes the STEP activities including the site reconnaissance, site representative interview and the sampling, Section 3 furnishes information about the potential sources of contamination and Section 4 provides information about the four potential migration and exposure pathways (groundwater migration, surface water migration, soil exposure, and air migration). Following the written report are the Appendices which include Figures, Tables, Target Compound List and STEP Photographs.

1.2 SITE DESCRIPTION

The Metro site is located at the intersection of Route 203 and Collinsville Road (Route 40), Fairmont City, St. Clair County, Illinois (Northwest Quarter, Section 8, Township 2 North, Range 9 West). It is currently an inactive landfill located on the western edge of of Fairmont City, south of the intersection of Route 203 and Collinsville Road. The property is bordered on the west by low-lying wetlands and on the east by wetlands and then a man-made earthen berm and Shoenberger Creek. Conrail railroad tracks border the site to the south. A residential area of East St. Louis is located south of the site across the railroad tracks. The north border of the site is formed by Collinsville Road. The site location is shown in Appendix A on Figures 1, 2 and 3 while Figure 4 provides a site map.

The Metro site property is situated on approximately 18 acres of land. The western portion of the property is the location of the landfill, which is approximately 8.5 acres in size. The eastern portion of the property is a natural wetland area which is approximately 7 acres in size. The

landfill is currently inactive and covered with demolition debris, tires and other general refuse. This debris cannot be seen from off-site since the former landfill is overgrown by thick brush and small trees. The northerly flowing Schoenberger Creek, located just east of the site property, is the nearest surface water body, other than the surrounding wetlands.

1.3 Site History

Disposal of wastes at the Metro site began in August, 1970, under a permit issued by the Illinois Department of Public Health (IDPH). Metro was issued a permit to landfill only the 8.5 acres on the western side of the property. Prior to its use as a landfill, this portion of the property was probably much like the land that currently surrounds it, low-lying wetlands.

During its operations as a landfill, the site received municipal waste from East St. Louis. In January, 1972 the Metro site was denied a permit to continue their landfilling activities by the IEPA. In February, 1973, IEPA issued an enforcement case with the Illinois Pollution Control Board (IPCB) against Metro for the following violations of the Illinois Environmental Protection Act: failure to provide daily cover for refuse, failure to provide final cover of filled areas, disposal of liquids or hazardous substances, exceeding height limits for landfill, allowing leachate to flow off site into public waterways and operating portions of the landfill without a permit. In June, 1973, IPCB ordered Metro to close the site and apply final cover within 90 days and pay a penalty to the State. Metro ceased to accept wastes at this time and completed closure activities in 1974.

Since 1974 the site has been inactive and trees and brush have grown up on the entire 7.5 acre landfill. The wetland portion of the property remains a wetland. There are currently no known ongoing regulatory or enforcement actions being taken by IEPA and no further remedial activities have been documented at the site.

2.0 STEP ACTIVITIES

2.1 RECONNAISSANCE ACTIVITIES and SITE REPRESENTATIVE INTERVIEW

On October 7, 1997, Mr. Peter Sorensen of the IEPA conducted a reconnaissance of the Metro property. The site reconnaissance included a visual inspection of the property to determine the location of site wastes and the integrity of the containment of the site, to identify potential on and off-site sampling locations, and to survey the surrounding land uses.

The site reconnaissance revealed that the 7.5 acre landfill is an elevated area surrounded by wetlands. At the time of the reconnaissance the wetlands to the west of the landfill were filled with standing water while the wetlands to the east were dry, although a small pond which was drying up was still located on the northern portion of these wetlands. At the time of the reconnaissance, the wetlands to the west of the landfill were being illegally filled with soil and other fill material. The Corp of Engineers was contacted regarding this filling of wetlands and is currently pursuing the case. Access to the site from all directions is unrestricted, although there appears to be nothing on site to attract visitors and no signs of people using the property for recreation. The former landfill area is now almost entirely covered by small trees and brush which are taking over the property. Further information attained during the reconnaissance is

included in the site description in Section 1.2 of this report.

2.2 SAMPLING ACTIVITIES

On October 22, 1997, IEPA personnel collected eight sediment samples from the Metro site and surrounding property. These samples supplemented the information gathered by the samples collected by Ecology and Environment in 1991 during their Screening Site Inspection at the property. During the 1991 Screening Site Inspection sampling event, eight on-site soil and six groundwater samples were collected. The purpose of both of these sampling events was to help determine if areas of contamination were present at the Metro property and the surrounding wetlands and waterways and if the groundwater had been impacted. Figure 5 shows the locations and Table 1 describes each sample collected during the 1997 sampling event.

3.0 IDENTIFICATION OF SOURCES

3.1 Landfill

This section will briefly discuss the potential hazardous waste source which has been identified in the initial stages of the CERCLA site investigation. Information concerning the size, volume and waste composition of the source has been derived throughout the site assessment process and the CERCLA sampling action.

As mentioned earlier, an 8.5 acre area on the western portion of the property was utilized as a landfill by the City of East St. Louis from 1970 to 1973. In 1973 the IEPA issued an enforcement case against Metro for the following violations: failure to provide daily cover for refuse, failure to provide final cover of filled areas, disposal of liquids or hazardous substances,

exceeding height limits for landfill, allowing leachate to flow off site into public waterways and operating portions of the landfill without a permit. At the present time, the landfill is elevated above the surrounding low-lying wetlands and is covered by small trees and thick brush. The landfill has no known engineered liner, cap or surface water runoff system.

4.0 MIGRATION PATHWAYS

The CERCLA Site Assessment Program identifies three migration pathways and one exposure pathway by which hazardous substances may pose a threat to human health and/or the environment. Consequently, sites are evaluated on their known or potential impact to these four pathways. The pathways evaluated are groundwater migration, surface water migration and air migration and the exposure pathway is soil exposure.

This section presents and discusses information collected during the CERCLA STEP investigation for the Metro site. This information, in addition to information from other sources, will be utilized in analyzing the site's impact on the four pathways and the various human and environmental targets within the established target distance limits. Discussions of the pathways will include descriptions of the pathways, contaminants, sources and targets. Targets include human populations, fisheries, endangered species, wetlands and other sensitive environments. The samples collected for the groundwater migration pathway and soil exposure route are compared to remediation benchmarks found in the IL EPA's Tiered Approach to Corrective Action Objectives (TACO) guidance document (Part 742).

4.1 Groundwater Pathway

Geology. The geology of the Metro site area consists of unconsolidated valley fill and valley train materials (outwash sands and gravels from glacial meltwater) ranging in thickness from 50 to 120 feet followed by bedrock. The valley fill is composed of alluvial deposits (sands, gravels, clays) that overlie the older valley train deposits, which range in thickness from 30 to 40 feet. The bedrock underlying the unconsolidated valley fill and valley train deposits consists of the Mississippian-age Lower Chesterian Series. Limestones, sandstones and shales make up this series, which ranges in thickness from 100 to 300 feet. Local well logs indicate the depth of groundwater in the area is approximately eleven feet.

Groundwater Use. There are no known municipal drinking water wells within four miles of the site as towns in the area obtain their municipal water supplies from the Illinois-American Water Company which draws its water from the Mississippi River. Ecology and Environment's 1991 Screening Site Inspection Report estimated that 734 people within four miles of the site utilize private wells for there drinking water supply.

Groundwater Sampling. During the 1991 Screening Site Inspection, groundwater samples were collected from four monitoring wells on the Metro property. See Figure 5 for the location of these wells. These samples were analyzed for the Target Compound List (see Appendix C) and the analytical results are shown in Table 2. When comparing the results from these samples to IL EPA's TACO Guidance Document remediation objectives for Class II groundwater, only antimony and iron were found to exceed the objectives. Antimony was found at levels up to 73

ug/L while the TACO remediation objective is 24 ug/L and iron was found at levels up to 39,200 ug/L while the TACO remediation objective is 5000 ug/L.

4.2 Surface Water Pathway

Surface water runoff from the topographically elevated 8.5 acre landfill at the Metro site runs directly into the wetlands that lie immedietely to the east and west. The northerly flowing Schoenberger Creek lies immedietely east of the eastern wetlands, being separated from the wetlands by a man-made berm. During times of heavy rains, the Schoenberger Creek overflows into these wetlands.

During the 1997 IL EPA STEP sampling event, six sediment samples were collected in the wetland areas and two were collected from Schoenberger Creek, one of these being collected upstream of the site as a background sample. See Figure 5 and for a map showing the locations of these samples. The concentrations of contaminants found in these sediment samples were compared to US EPA Ecotox Thresholds where available. Ecotox Thresholds are ecological benchmarks that are media-specific contaminant concentrations above which there is sufficient concern regarding adverse ecological effects to warrant further site investigation. Ecotox Thresholds are to be used for screening purposes and are not regulatory criteria, site-specific cleanup standards or remediation goals. Table 3 shows the analytical results of the sediment samples and the Ecotox Threshold values.

Every sediment sample that was collected was found to exceed several of the Ecotox Threshold

benchmarks, some by very significant amounts. The samples that exceeded the benchmarks for the highest number of contaminants and were most highly contaminated were the samples collected from Schoenberger Creek. The high contamination levels found in Schoenberger Creek were present in the background sample collected upstream of the site as well as the sample collected downstream. This indicates that the source of contamination in the creek is from upstream sources rather than from the landfill. In addition, many of the samples collected from the wetlands contained the same contaminants as were found in Schoenberger Creek, indicating that the possible source of the wetland contamination could be from when the creek floods the wetlands.

4.3 Air Pathway

No documented air releases are known and none were observed during the site reconnaissance or sampling event. Based on the nature and the age of the site, it is unlikely that contaminant releases to the air pathway would be of concern. The site is not used by the public for recreational purposes and no schools or daycare facilities exist within 200 feet of the site.

4.4 Soil Exposure

As mentioned earlier, an 8.5 acre portion of the Metro site was used as a landfill in the early 1970's. The portion that was used as a landfill is now covered with small to medium sized trees and thick brush. There are no signs that the property is used as a recreational area by local residents.

During the 1991 SSI sampling event, five soil samples were collected on the landfill itself (S1 - S5) and during the 1997 STEP sampling event four sediment samples (X203 - X206) were collected in the wetlands located just east of the landfill to help determine what contaminants may be present at the site. Figure 5 shows the locations of both groups of samples. The samples collected in the wetlands are being evaluated for soil exposure because part of the year the area is dry without water being present in the majority of the area, thus being an area people could be exposed to the soils. The analytical results from both sampling events were compared to IEPA's TACO soil remediation objectives. Since the site is not fenced, limiting access to the site, the analytical results were compared to the more conservative Tier 1 residential remediation objectives rather than the Tier 2 industrial remediation objectives. Of the five samples collected on the landfill area, two were found to exceed the remediation objectives for arsenic, three for beryllium, one for chromium and one for chlorobenzene. All four samples collected in wetland area were found to exceed remediation objectives for arsenic and beryllium. Neither the samples collected on the landfill nor in the wetland area exceeded the soil exposure remediation objectives by great amounts. The analytical results from both groups of samples and the TACO soil remediation objectives can be seen in Table 4.

Appendix A

Figures

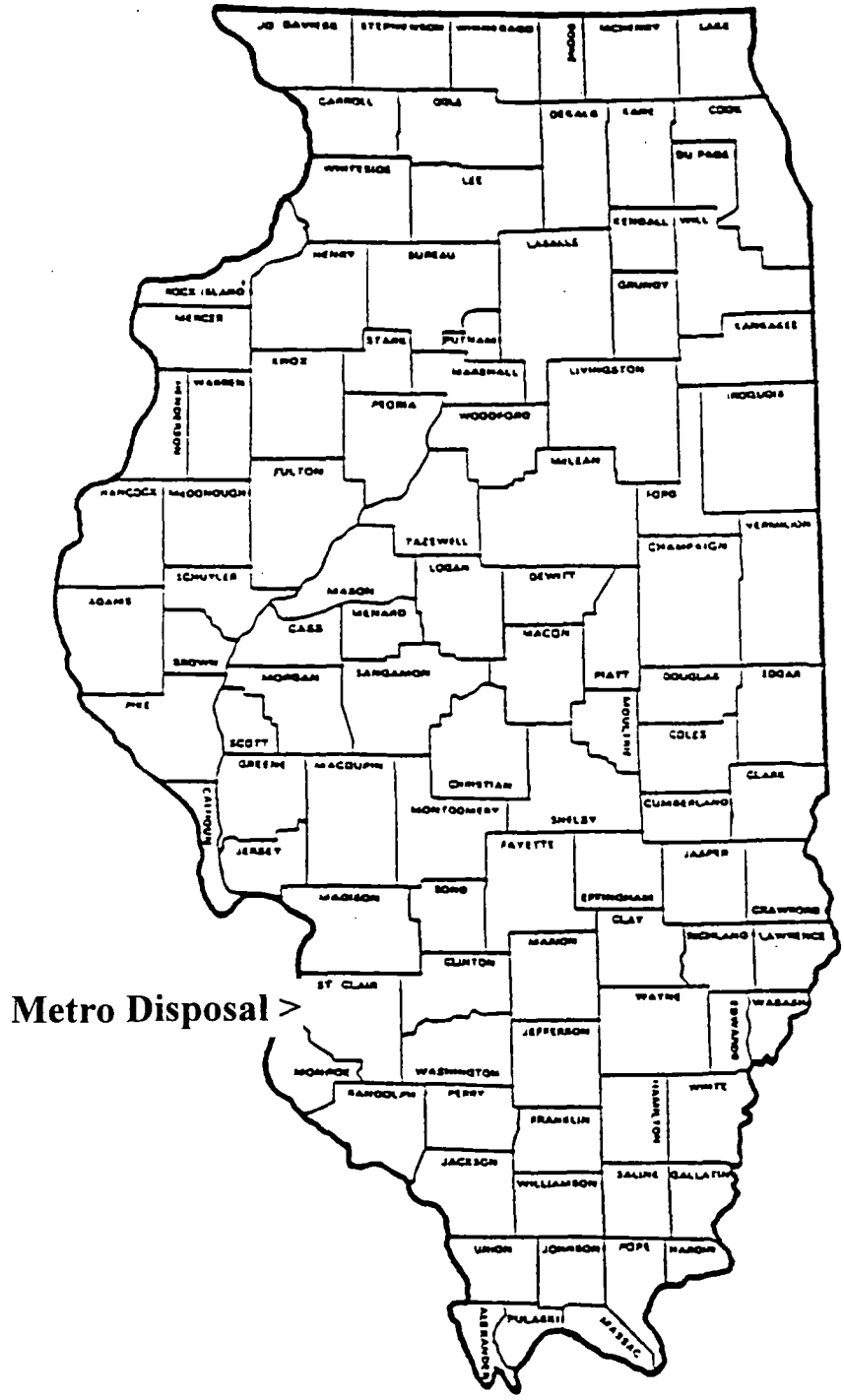


Figure 1
State of Illinois Map

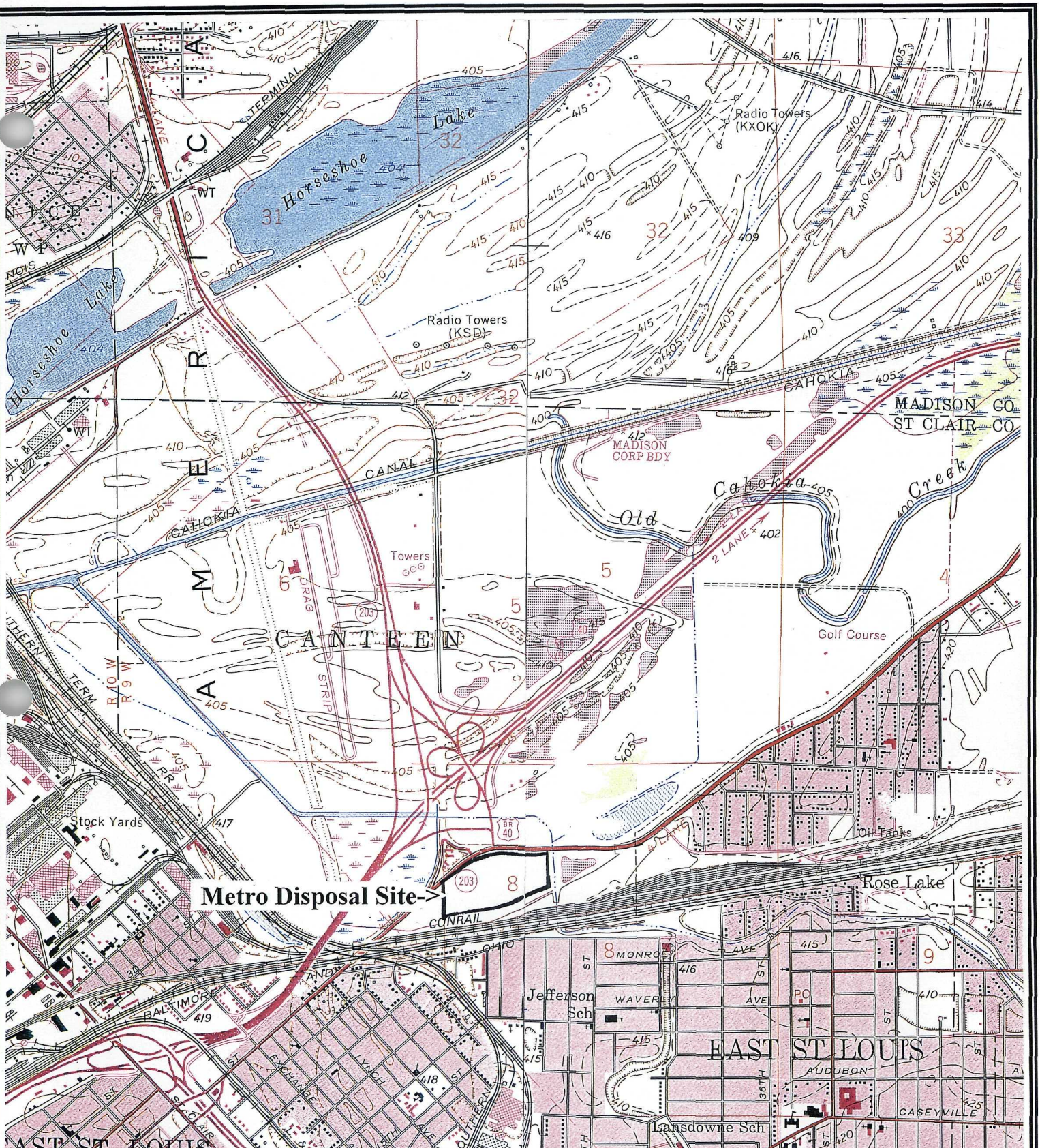


Figure 2
Topographic Map

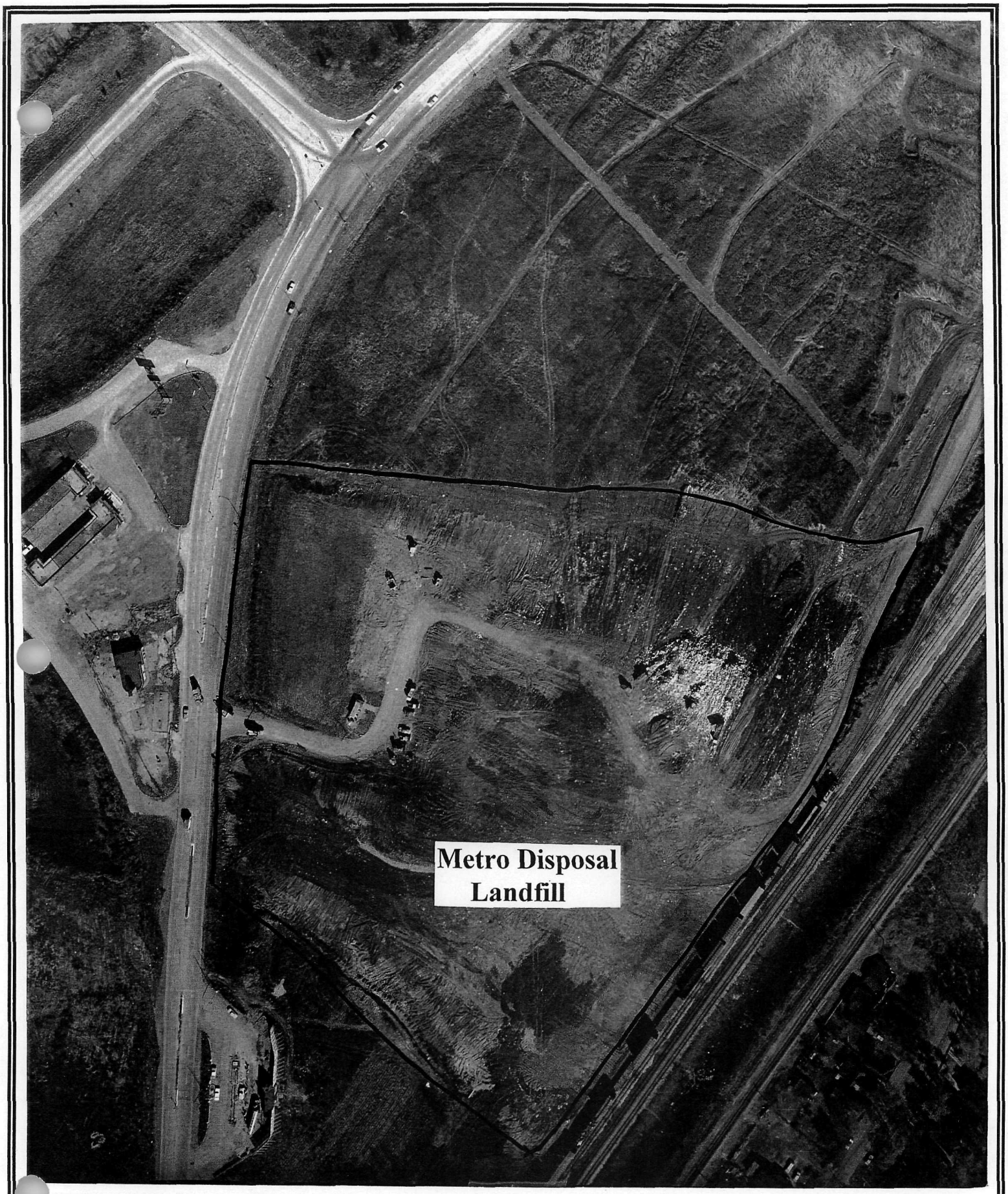


Figure 3
1971 Aerial Photograph of Metro Disposal

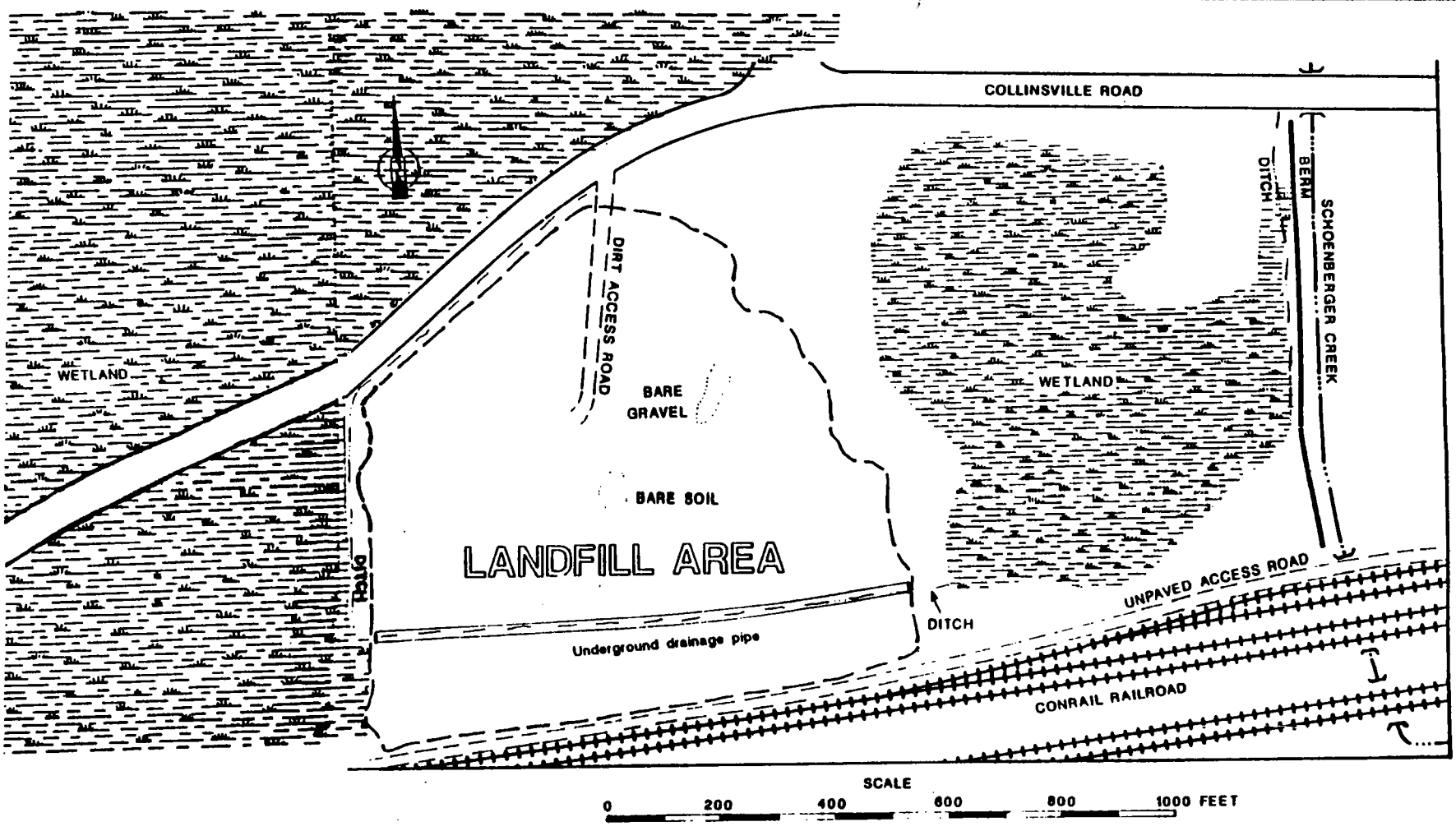


Figure 4
Site Map
Base Map: Ecology & Environment

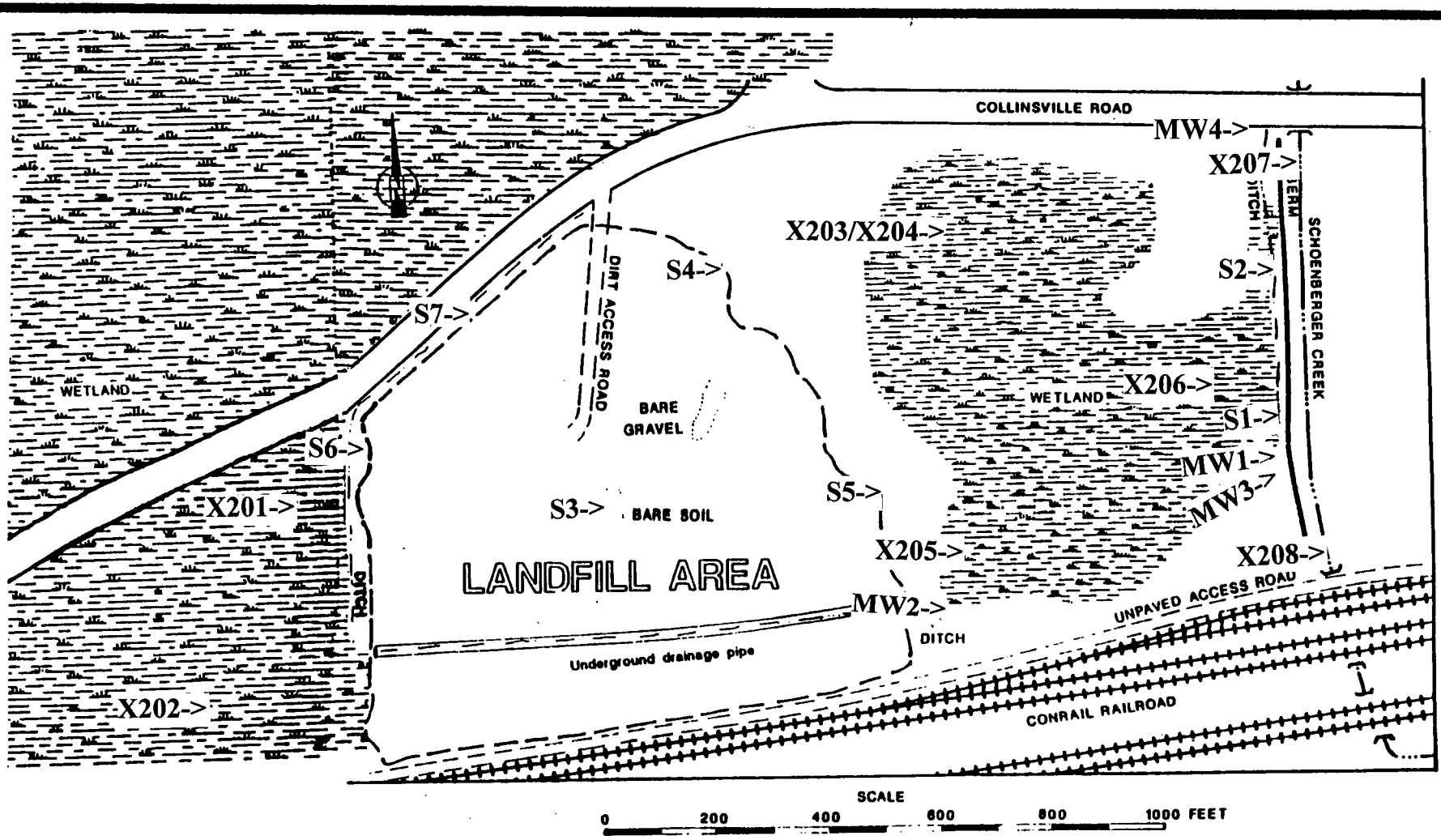


Figure 5
Sample Location Map
Base Map: Ecology & Environment

Appendix B

Tables

Table 1 Soil Sample Descriptions

Sample	Depth	Appearance
X201	0-4"	Dark brown silt with some gray clay.
X202	0-4"	Dark brown silt with some gray clay.
X203/X204	0-4"	Dark brown silt.
X205	0-4"	Dark brown silt.
X206	0-4"	Dark brown silt.
X207	0-12"	Black mucky silt with heavy petroleum smell and oily sheen.
X208	0-12"	Black mucky silt with heavy petroleum smell and oily sheen.

Table 2 Metro Disposal Monitoring Well Analytical Data

SAMPLING POINT Date Collected Parameter Sample Depth	TACO Tier 1 Remediation Objectives With Class 2 Groundwater	MW1 5-9-91 Groundwater	MW2 5-9-91 Groundwater	MW3 5-9-91 Groundwater	MW4 5-9-91 Groundwater
VOLATILES					
Benzene	25	--	10	--	--
Chlorobenzene	500	--	120	--	--
	ug/L	ug/L	ug/L	ug/L	ug/L
SEMI-VOLATILES					
None Detected					
PESTICIDES					
None Detected					
INORGANICS					
Antimony	24	45.2 B	73.4	44.5 B	--
Arsenic	2000	2.4 BJ	15.1 J	2.2 BJ	6.4 BJ
Barium	2000	101 B	549	235	50 B
Calcium		162000	368000	152000	80400
Cobalt	1000	--	6.7 B	--	--
Copper	650	--	--	--	13.3 BJ
Iron	5000	20.8 B	39200	5600	24.4 B
Lead	100	--	1.4 B	1.5 B	1.3 B
Magnesium		33600	113000	28800	27300
Manganese	10000	335	2320	1080	4.8 BJ
Nickel	2000	27.7 B	50	--	--
Potassium		4920 BJ	30100 J	7350 J	5250 J
Selenium	50	1.5 BJ	--	--	--
Sodium		38000	199000	29800	14900 J
Vanadium		4 BJ	--	--	--
Zinc	10000	18.4 BJ	12.3 BJ	15.4 BJ	142
	ug/L	ug/L	ug/L	ug/L	ug/L

Table 3 Metro Disposal Sediment Sample Analytical Data

SAMPLING POINT Date Collected Parameter Sample Depth	US EPA Ecotox Thresholds	X201 10-22-97 Soil	X202 10-22-97 Soil	X203 10-22-97 Soil 6-7'	X204 10-22-97 Soil 3-4'	X205 10-22-97 Soil 1-2'	X206 10-22-97 Soil 6-18"	X207 10-22-97 Soil	X208 10-22-97 Soil
VOLATILES									
Acetone	--	120	76	--	--	--	--	420	270.0
2-Butanone	--	64	50	--	--	--	--	450	--
Chlorobenzene	--		23	--	--	--	--	72 J	--
	ug/Kg								
SEMI-VOLATILES		--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--
2-Methylnaphthalene		--	--	--	--	--	--	--	3000
4-Chloroaniline		--	--	--	--	--	--	1700	--
2-Methylnaphthalene		--	--	--	--	--	--	4700	--
Acenaphthene	620	--	--	--	--	--	--	**1600**	**3200**
Fluorene	540	--	--	--	--	--	--	**2100**	**6000**
Phenanthrene	850	140 J	73 J	76 J	86 J		91 J	10000 E	410.0 J
Anthracene		--	--	--	--	--	--	2100	3300.0
Fluoranthene	2900	370 J	170 J	160 J	180 J	170 J	160 J	2400	4300.0
Pyrene	660	330 J	140 J	180 J	180 J	140 J	180 J	3100	6900.0 E
Benzo(a)anthracene		160 J	91 J	72 J	84 J	150 J	82 J	1500	140.0 J
Chrysene		220 J	93 J	120 J	130 J	150 J	120 J	2200	130.0 J
bis(2-Ethylhexyl)phthalate		170 J	190 J	140 J	92 J	130 J	70 J	9200 E	4500.0
Benzo(b)fluoranthene		230 J	98 J	130 J	120 J	130 J	110 J	--	--
Benzo(k)fluoranthene		230 J	98 J	71 J	92 J	--	76 J	--	2700.0
Benzo(a)pyrene	430	180 J	--	90 J	100 J	87 J	83 J	1000	1900.0
Indeno(1,2,3-cd)pyrene		140 J	--	82 J	92 J	--	78 J	--	560.0 J
Benzo(g,h,i)perylene		--	150 J	100 J	100 J	--	88 J	-- J	670.0 J
	ug/Kg			ug/Kg	ug/Kg	ug/Kg	ug/Kg		
PESTICIDES									
Endosulfan I		--	--	5.3	--	--	4.8	--	--
Dieldrin	2	--	--	--	**8.3 P**	--	**13 P**	240 P	--
4,4'-DDE	5	--	--	7.8	--	--	--	210	240.0
Endosulfan II	14	--	--	--	--	--	--	110 P	60.0 P
4,4'-DDD	8	--	--	--	5.6 P	--	--	190 P	230.0 P
Endosulfan sulfate		--	--	--	--	--	8.2	--	--
4,4'-DDT	7	--	20	8.1 P	5.8 P	--	--	140 P	120.0 P
Endrin aldehyde		8.2 P	--	13 P	8.6 P	--	12 P	170	74.0 P
alpha-Chlordane		--	--	--	--	--	--	160 P	67.0
gamma-Chlordane		--	--	--	--	--	--	140 P	80.0 P
Aroclor-1254	60	--	--	--	--	--	--	--	1200.0 P
Aroclor-1260	5	--	--	--	--	--	--	--	1000.0
	ug/Kg			ug/Kg	ug/Kg	ug/Kg	ug/Kg		
INORGANICS									
	--								
Aluminum	--	10100	9710	17300	14800	21800	12100	8290	11400
Antimony	--	**6.2 R**	**4.6 R**	**5.4 J**	**5.6 J**	**7.5 R**	4.8 J	11.2 J	10.3 J
Arsenic	6	**7.3**	6.5	**9.7**	**9**	**10.3**	**18.9**	**10.6**	**17**
Barium	--	287	223	345	341	448	653	782	694
Beryllium	--	0.9	1	**1.4**	**1.3**	**1.6**	**1.1**	0.38	0.82
Cadmium	0.6	3.5	1	**27.8**	**27.5**	**21**	**25**	**9.8**	**35.8**
Calcium	--	7870	11500	8570	8400	11100	9210	51000	42700
Chromium	--	16.5	14	26.2	23.1	33.2	27.8	67.5	652
Cobalt	50	12.4	10	10.1	9.2	13.2	11	6.7	10.3
Copper	16	40.4	20.7	56.1	53.5	59.5	57.2	**108**	**115**
Iron	20000	17500	18400	24300	21500	34500	43800	102000	74700
Lead	31	90	28.7	167	182	112	147	**319**	**446**
Magnesium	--	4170	4120	4330	3940	6030	3830	7940	7680
Manganese	460	765	380	436	437	650	927	394	407
Mercury	0.2	0.1	0.08	0.2	0.2	0.2	0.5	**0.4**	**0.6**
Nickel	16	29.5	23.1	27.2	24.4	39.5	25.7	**21.3**	**44.8**
Potassium	--	1930	1510	2790	2550	3600	2320	1080	1550
Selenium	--	0.6 J	--	0.6 J	0.6 J	0.8 J	0.8 J	1.2 J	1.6 J
Silver	0.5	--	0.8	1.3	1.4	2.1	2.3	**5**	**5.4**
Sodium	--	369 J	484 J	276 J	265 J	535 J	236 J	210 J	220 J
Thallium	--	--	--	0.5 J	0.5 J	0.6 J	0.5 J		0.5
Vanadium	--	28.2	26.1	41.6	35.5	50.8	39.7	40.9	44.1
Zinc	120	255	126	811	769	905	877	**802**	**1060**
Cyanide	0.1	0.2	0.2	0.4	0.3	0.5	0.5	**0.8**	**0.6**
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg		

Table 4 Metro Disposal Analytical Data

SAMPLING POINT	TACO Tier 1	X203	X204	X205	X206	S1	S2	S3	S4	S5	S6	S7
Date Collected	Remediation	10-22-97	10-22-97	10-22-97	10-22-97	5-8-91	5-8-91	5-8-91	5-8-91	5-8-91	5-8-91	5-8-91
Parameter	Objectives	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Depth	With Class II Groundwater	6-7'	3-4'	1-2'	6-18"							
VOLATILES												
Methylene Chloride	--	--	--	--	--	--	150 J	--	--	--	--	680 D
Acetone	16000	--	--	--	--	120	52	30	--	230	350	1100 D
Carbon disulfide	--	--	--	--	--	5 J	--	3 J	--	--	6 J	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--	4300
Benzene	--	--	--	--	--	--	--	--	--	7 J	--	--
Toluene	--	--	--	--	--	--	--	--	--	4 J	4 J	--
Chlorobenzene	1000	--	--	--	--	--	--	--	--	2500 E	100	--
	ug/Kg											
SEMI-VOLATILES												
Phenanthrene	--	76 J	86 J		91 J	--	--	--	--	--	--	--
Fluoranthene	3100000	160 J	180 J	170 J	160 J	--	--	--	--	--	--	1200.0 J
Pyrene	2300000	180 J	180 J	140 J	180 J	--	--	--	--	--	--	970.0 J
Benzo(a)anthracene	900	72 J	84 J	150 J	82 J	--	--	--	--	--	--	--
Chrysene	88000	120 J	130 J	150 J	120 J	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	46000	140 J	92 J	130 J	70 J	--	--	--	--	--	--	--
Benzo(b)fluoranthene	900	130 J	120 J	130 J	110 J	--	--	--	--	--	--	--
Benzo(k)fluoranthene	9000	71 J	92 J		76 J	--	--	--	--	--	--	--
Benzo(a)pyrene	800	90 J	100 J	87 J	83 J	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	900	82 J	92 J		78 J	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	--	100 J	100 J		88 J	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg							
PESTICIDES												
Endosulfan I	18000	5.3	--	--	4.8	--	--	--	--	--	--	--
Dieldrin	20	--	8.3 P	--	13 P	--	--	--	--	--	--	--
4,4'-DDE	2000	7.8	--	--	--	--	--	--	--	--	--	--
4,4'-DDD	3000	--	5.6 P	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	8.2	--	--	--	--	--	--	--
4,4'-DDT	2000	8.1 P	5.8 P	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	13 P	8.6 P	--	12 P	--	--	--	--	--	--	--
Aroclor-1260	1000	--	--	--	--	--	--	--	--	--	--	--
	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg			
INORGANICS												
Aluminum	--	17300	14800	21800	12100	14000	18600	10100	11500	22300	15600	7650
Antimony	20	5.4 J	5.6 J	7.5 R	4.8 J	--	--	--	--	--	--	--
Arsenic	7.2	9.7	9	10.3	18.9	5 J	8.3 J	4.5 J	11.9 J	7.1 J	5.2 J	5.8 J
Barium	1700	345	341	448	653	159	591	193	223	403	323	333
Beryllium	1	1.4	1.3	1.6	1.1	1.4 J	1.7	0.6 J	0.75 J	1.9 J	1.1 J	0.57 J
Cadmium	110	27.8	27.5	21	25	2.9	10.1	4.3		14.6	2.9 J	6.9
Calcium	--	8570	8400	11100	9210	7340	7260	4690	16400	9930	34100	27300
Chromium	36	26.2	23.1	33.2	27.8	23.5	67.4	25.8	22	32	27.6	78.2
Cobalt	12000	10.1	9.2	13.2	11	11	10.6	6.7 B	9.3 B	11.4	7.7 B	6.3 B
Copper	8200	56.1	53.5	59.5	57.2	21.7	46.5	31.1	32.1	91.2	34.2	54.4
Iron	--	24300	21500	34500	43800	22800	36100	17900	35900	31900	41000	16700
Lead	400	167	182	112	147	75	125 J	105 J	29.5	109 J	66.4 J	284 J
Magnesium	--	4330	3940	6030	3830	5360	4670	3060	4910	6000	5490	4490
Manganese	8700	436	437	650	927	214	381	125	411	479	435	255
Mercury	3.3	0.2	0.2	0.2	0.5	--	0.46	0.2	--	--	--	--
Nickel	180	27.2	24.4	39.5	25.7	26	27.4	21	28.8	47.7	32.1	21.1
Potassium	--	2790	2550	3600	2320	2780	3470	1910	2710	4210	3660	1500 B
Selenium	4.5	0.6 J	0.6 J	0.8 J	0.8 J	0.37 J	0.7 J	0.3 J	--	0.8 J	0.47 J	0.37 J
Silver	13	1.3	1.4	2.1	2.3	--	--	--	--	--	--	--
Sodium	--	276 J	265 J	535 J	236 J	271 B	306 B	75 B	390 B	990 B	824 B	479 B
Thallium	3	0.5 J	0.5 J	0.6 J	0.5 J	--	0.47 B	--	--	0.43 B	--	--
Vanadium	1400	41.6	35.5	50.8	39.7	35.4	39.1	23.7	22.3	42.7	31.7	24.7
Zinc	7500	811	769	905	877	190	622	333	120	686	288	526
Cyanide	40	0.4	0.3	0.5	0.5	--	--	--	--	--	--	--
	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Appendix C

Target Compound List

TARGET COMPOUND LIST

Volatile Target Compounds

Chloromethane	1,2-Dichloropropane
Bromomethane	cis-1,3-Dichloropropene
Vinyl Chlorde	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropene
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroehtene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	1,1,2,2-Tetrachloroethane
2-Butanone	Toluene
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethylbenzene
Vinyl Acetate	Styrene
Bromodichloromethane	Xylenes (total)

Base/Neutral Target Compounds

Hexachloroethane	2,4-Dinitrotoluene
bis(2-Chloroethyl) Ether	Diethylphthalate
Benzyl Alcohol	N-Nitrosodiphenylamine
bis (2-Chloroisopropyl) Ether	Hexachlorobenzene
N-Nitroso-Di-n-Propylamine	Phenanthrene
Nitrobenzene	4-Bromophenyl-phenylether

Hexachlorobutadiene	Anthracene
2-Methylnaphthalene	Di-n-Butylphthalate
1,2,4-Trichlorobenzene	Fluoranthene
Isophorone	Pyrene
Naphthalene	Butylbenzylphthalate
4-Chloroaniline	bis(2-Ethylhexyl)Phthalate
bis(2-chloroethoxy)Methane	Chrysene
Hexachlorocyclopentadiene	Benzo(a)Anthracene
2-Chloronaphthalene	3-3'-Dichlorobenzidene
2-Nitroaniline	Di-n-Octyl Phthalate
Acenaphthylene	Benzo(b)Fluoranthene
3-Nitroaniline	Benzo(k)Fluoranthene
Acenaphthene	Benzo(a)Pyrene
Dibenzofuran	Ideno(1,2,3-cd)Pyrene
Dimethyl Phthalate	Dibenz(a,h)Anthracene
2,6-Dinitrotoluene	Benzo(g,h,i)Perylene
Fluorene	1,2-Dichlorobenzene
4-Nitroaniline	1,3-Dichlorobenzene
4-Chlorophenyl-phenylether	1,4-Dichlorobenzene

Acid Target Compounds

Benzoic Acid	2,4,6-Trichlorophenol
Phenol	2,4,5-Trichlorophenol
2-Chlorophenol	4-Chloro-3-methylphenol
2-Nitrophenol	2,4-Dinitrophenol
2-Methylphenol	2-Methyl-4,6-dinitrophenol
2,4-Dimethylphenol	Pentachlorophenol
4-Methylphenol	4-Nitrophenol
2,4-Dichlorophenol	

Pesticide/PCB Target Compounds

alpha-BHC	Endrin Ketone
beta-BHC	Endosulfan Sulfate
delta-BHC	Methoxychlor
gamma-BHC (Lindane)	alpha-Chlordane
Heptachlor	gamma-Chlordane
Aldrin	Toxaphene
Heptachlor epoxide	Aroclor-1016
Endosulfan I	Aroclor-1221
4,4'-DDE	Aroclor-1232
Dieldrin	Aroclor-1242
Endrin	Aroclor-1248
4,4'-DDD	Aroclor-1254
Endosulfan II	Aroclor-1260
4,4'-DDT	

Inorganic Target Compounds

Aluminum	Manganese
Antimony	Mercury
Arsenic	Nickel
Barium	Potassium
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Thallium
Cobolt	Vanadium
Copper	Zinc

Iron	Cyanide
Lead	Sulfide
Magnesium	

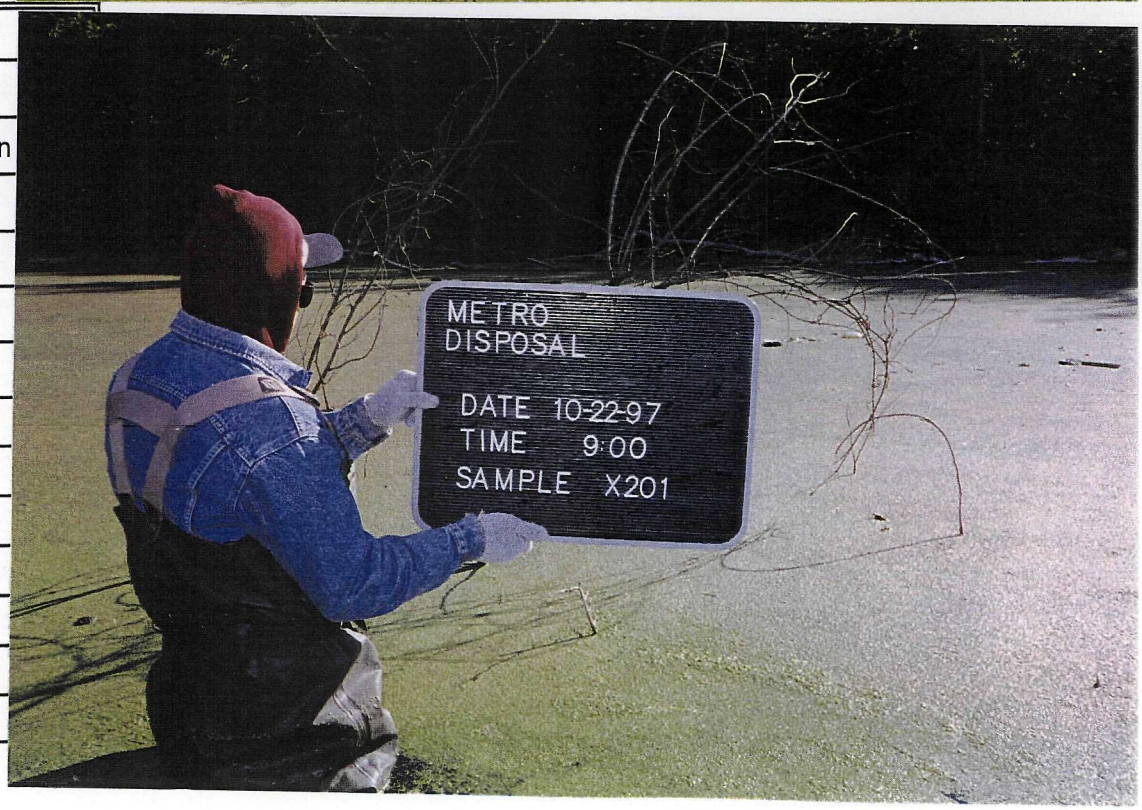
Appendix D

1997 STEP Sampling Event Photographs

SITE NAME: Metro Disposal
SITE ILD# : 980 607 204 **COUNTY:** St. Clair

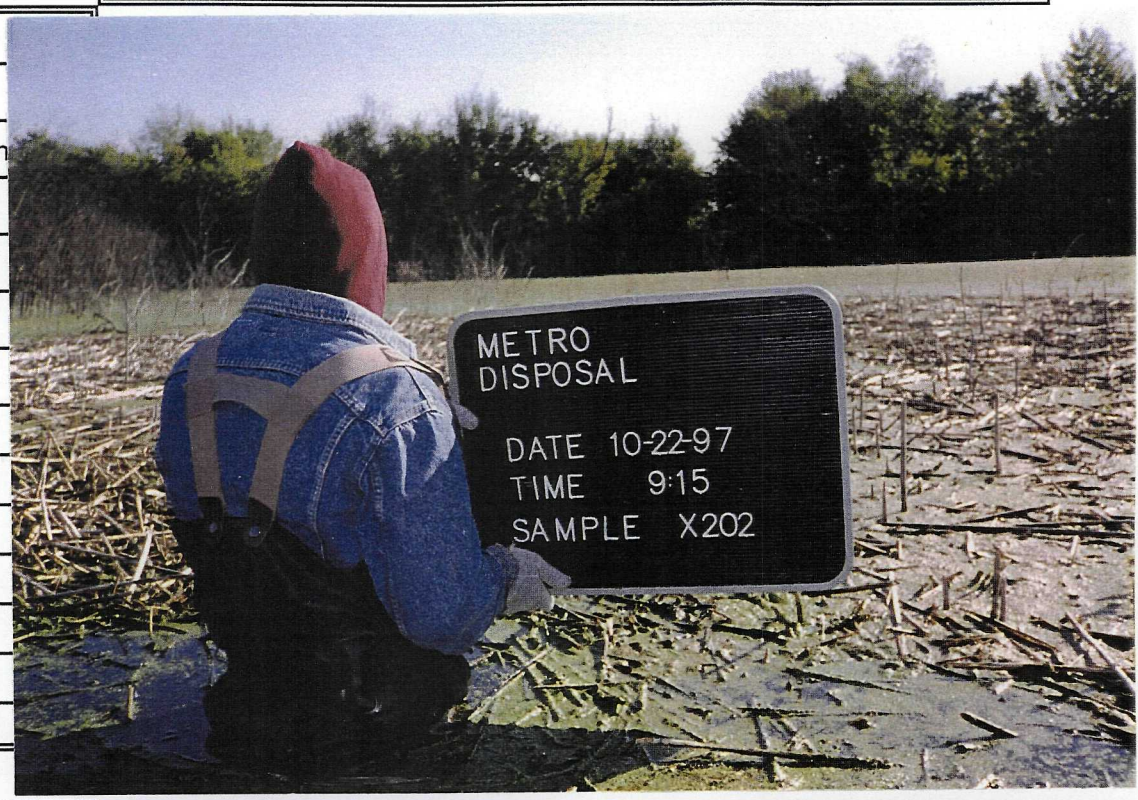
DATE: 10 -22 - 97
TIME: 900
PHOTO BY: Peter Sorensen
PHOTO #: 1
SAMPLE#: X201
Photo Direction: East
COMMENTS:

DATE: 10 -22 - 97
TIME: 900
PHOTO BY: Peter Sorensen
Photo#: 2
SAMPLE #: X201
Photo Direction: North
COMMENTS:

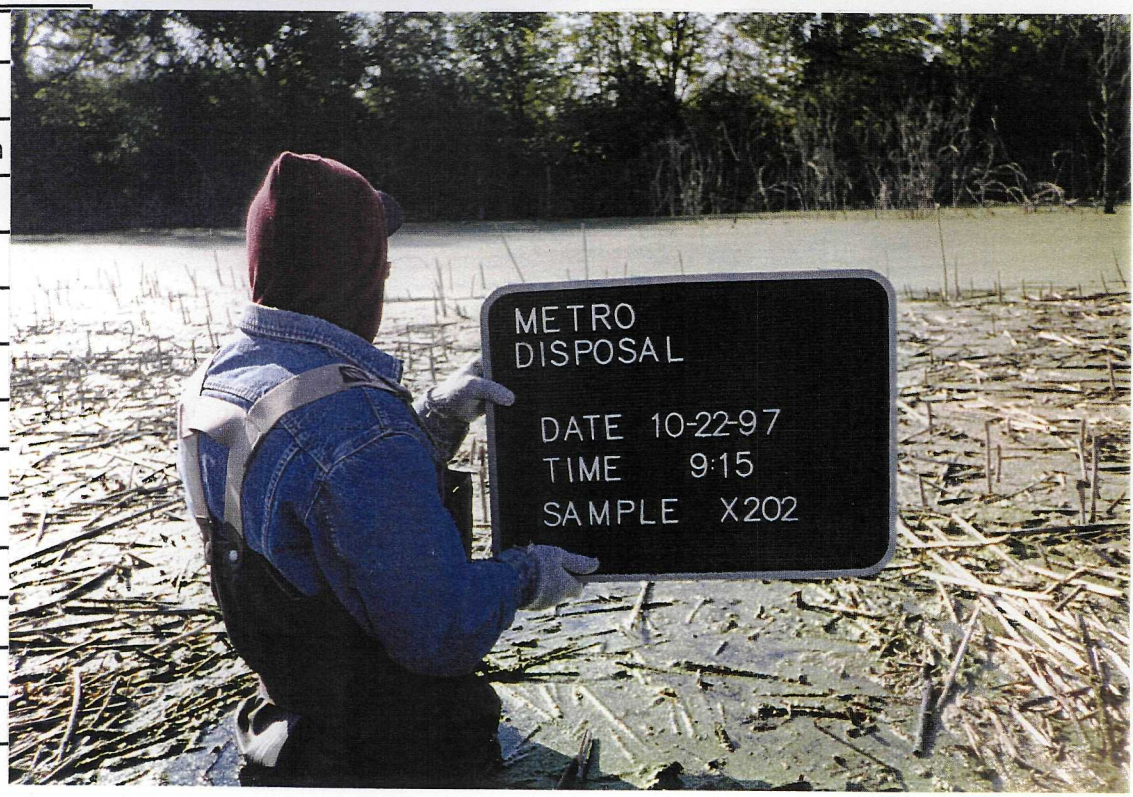


SITE NAME: Metro Disposal	
SITE ILD# : 980 607 204	**COUNTY:** St. Clair

DATE: 10 -22 - 97
TIME: 915
PHOTO BY: Peter Sorensen
PHOTO #: 3
SAMPLE#: X202
Photo Direction: South
COMMENTS:



DATE: 10 -22 - 97
TIME: 915
PHOTO BY: Peter Sorensen
Photo#: 4
SAMPLE #: X202
Photo Direction: East
COMMENTS:



SITE NAME: Metro Disposal	
SITE ILD# : 980 607 204	**COUNTY:** St. Clair

DATE: 10 -22 - 97

TIME: 1130

PHOTO BY: Peter Sorensen

PHOTO #: 9

SAMPLE#: X203/X204

Photo Direction: west

COMMENTS:

DATE: 10 -22 - 97

TIME: 1130

PHOTO BY: Peter Sorensen

Photo#: 10

SAMPLE #: X203/X204

Photo Direction: north

COMMENTS:

SITE NAME: Metro Disposal

SITE ILD# : 980 607 204 **COUNTY:** St. Clair

DATE: 10 -22 - 97

TIME: 1145

PHOTO BY: Peter Sorensen

PHOTO #: 11

SAMPLE#: X205

Photo Direction: Southwest

COMMENTS:

DATE: 10 -22 - 97

TIME: 1145

PHOTO BY: Peter Sorensen

Photo#: 12

SAMPLE #: X205

Photo Direction: north

COMMENTS:

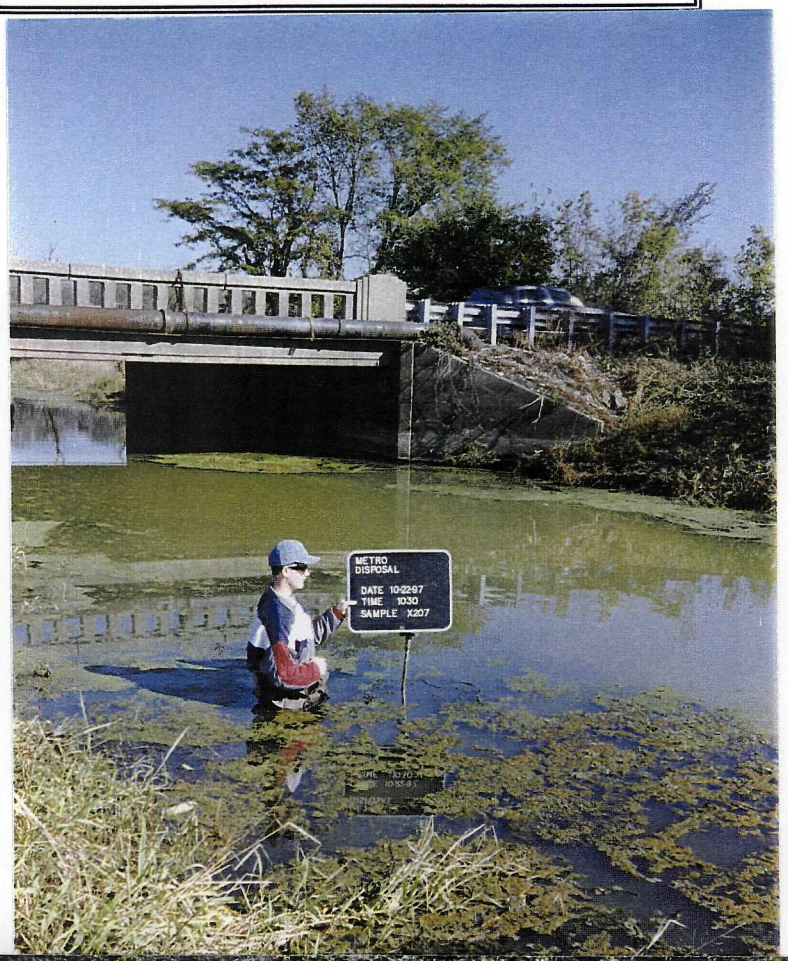
SITE NAME: Metro Disposal
SITE ILD# : 980 607 204 **COUNTY:** St. Clair

DATE: 10 -22 - 97
TIME: 1200
PHOTO BY: Peter Sorensen
PHOTO #: 13
SAMPLE#: X206
Photo Direction: South
COMMENTS:

DATE: 10 -22 - 97
TIME: 1200
PHOTO BY: Peter Sorensen
Photo#: 14
SAMPLE #: X206
Photo Direction: west
COMMENTS:

SITE NAME: Metro Disposal
SITE ILD# : 980 607 204 **COUNTY:** St. Clair

DATE: 10 -22 - 97
TIME: 1030
PHOTO BY: Peter Sorensen
PHOTO #: 5
SAMPLE#: X207
Photo Direction: east
COMMENTS:



DATE: 10 -22 - 97
TIME: 1030
PHOTO BY: Peter Sorensen
Photo#: 6
SAMPLE #: X207
Photo Direction: north
COMMENTS:

SITE NAME: Metro Disposal

SITE ILD# : 980 607 204 **COUNTY:** St. Clair

DATE: 10 -22 - 97

TIME: 1045

PHOTO BY: Peter Sorensen

PHOTO #: 7

SAMPLE#: X208

Photo Direction: east

COMMENTS:

DATE: 10 -22 - 97

TIME: 1045

PHOTO BY: Peter Sorensen

Photo#: 8

SAMPLE #: X208

Photo Direction: south

COMMENTS: